

Claims

1. Bacterial composition for the degradation of organic fats, characterised in that it comprises principally the bacterial strain Klebsiella oxytoca.

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2. Composition according to claim 1, characterised in that it comprises in addition the bacterial strain Serratia odorifera and/or Aeromonas hydrophyla.

3. Composition according to claim 2, characterised in that it is composed of

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60% to 90%, preferably about 80% by weight of bacteria of the strain Klebsiella oxytoca,

5% to 20%, preferably about 10% by weight of bacteria of the strain Serratia odorifera, and

15 5% to 20%, preferably about 10% by weight of bacteria of the strain Aeromonas hydrophyla, the total of the three strains being equal to 100%.

20 20 4. Use of a bacterial composition according to any one of claims 1 to 3 for the treatment or pre-treatment of effluent rich in organic fats, particularly effluent from the food or agro-food industry.

25 25 5. Process for the pre-treatment of effluent rich in organic fats, particularly effluent from the food or agro-food industry, characterised in that it consists of pre-treating directly said effluent containing said fats as it leaves the place of its production and in that it consists of accomplishing the following stages:

- supplying a homogenisation and/or processing vessel (1) with effluent to be pre-treated, as it is produced and activating a recirculation circuit (2) between the vessel and a biological reactor (3) so as to obtain in said biological reactor (3) a dilution rate of the fats inversely proportional to 30 the fat concentration initially present in the effluent to be pre-treated and situated between 0.400 h⁻¹ and 1.500 h⁻¹ for a fat concentration contained in said effluent to be pre-treated entering the homogenisation and/or processing vessel (1) of 1 g/l,

- degrading said fats in said biological reactor (3) using a bacterial composition according to any one of claims 1 to 3, and
- discharging the pre-treated effluent, now containing practically no fats, to a final treatment unit such as a purification plant.

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6. Process according to claim 5, characterised in that the dilution rate obtained in the biological reactor (3) is inversely proportional to the fat concentration initially present in the effluent to be pre-treated and preferably situated between 0.528 h^{-1} and 1.056 h^{-1} for a fat concentration contained in said effluent to be pre-treated entering the homogenisation and/or processing vessel (1) of 1 g/l.

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7. Process according to any one of claims 5 or 6, characterised in that the fat concentration of the effluent to be pre-treated entering the homogenisation and/or processing vessel (1) is less than 40 g/l, and preferably situated between 0.5 g/l and 10 g/l.

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8. Process according to any one of claims 5 to 7, characterised in that the arrival in the homogenisation and/or processing vessel (1) of the recirculation water discharged by the recirculation circuit (2) is effected from above by a spraying device (4).

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9. Process according to any one of claims 5 to 8 characterised in that the pre-treated effluent is discharged using a decanter (5) on the upper part of which a floating pump (6) is provided for the elimination of surface floating sludge that cannot be decanted.

10. Process according to claim 9, characterised in that the surface floating sludge that cannot be decanted is reinjected into, or upstream of the homogenisation and/or processing vessel (1).

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11. Facility for the pre-treatment of effluent rich in organic fats, in particular for the implementation of the process according to any one of claims 5 to 10, characterised in that it consists principally of at least one homogenisation and/or processing vessel (1), at least one biological reactor (3) of a capacity suited to the daily output of effluent to be pre-treated and to the fat concentration of that effluent, said biological reactor (3) being connected to the homogenisation and/or processing vessel(s) (1) by a recirculation circuit (2), at least one device for providing a controlled supply of oxygen (7) arranged in the biological reactor(s) (3) and at

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least one means of discharging the pre-treated effluent, for example by overflow, outside said biological reactor(s) (3).